CLAIMS

What is claimed is:

1. An optical device comprising:

a plurality of needles having channels;

a plurality of fibers inserted in the plurality of needles; and

a plurality of optical components aligned and connected with the plurality of fibers.

2. The optical device of Claim 1 wherein the needles are microneedles.

3. The optical device of Claim 1 wherein the optical components are vertical cavity surface emitting lasers.

4. The optical device of Claim 1 wherein the optical components are photodetectors.

5. The optical device of Claim 1 further comprising a plurality of photodetectors.

6. The optical device of Claim 1 further comprising a sensing element.

7. A method for forming an optical device including a vertical cavity surface emitting laser (VCSEL) array and a fiber array, the method comprising:

aligning the fiber array and VCSEL array;

joining the fiber array and VCSEL array;

reflowing solder on the VCSEL array; and

applying underfill between the fiber array and VCSEL array.